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INTERNATIONAL STANDARD



**Internet of things (IoT) – Data exchange platform for IoT services –
Part 1: General requirements and architecture**





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JTC1-SC41/178/FDIS	JTC1-SC41/187/RVD

Full information on the voting for the approval of this International Standard can be found in the report on voting indicated in the above table.

This publication has been drafted in accordance with the ISO/IEC Directives, Part 2.

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INTRODUCTION

IoT implements various services in many fields, such as "Remote Management of Large Equipment in a Plant", "Warehouse Goods Monitoring", "IoT Endpoint (Sensors and Actuators) Monitoring Systems", etc. The IoT architecture can be categorized into vertical and horizontal approaches. For small deployments in limited areas, the vertical approach is possible. However, for large scale deployments, the horizontal approach is required, and then introducing the concept of a common platform is helpful for implementing various services. In the horizontal approach, information processing and networking are positioned as the platform. And also, the types of IoT services are increasing in different application fields. To make IoT services more creative and productive, data exchange between various IoT services needs to be supported and a common platform for data exchange is the simplest way. This document has been developed in accordance with a detailed study of a platform that supports various IoT use cases.

INTERNET OF THINGS (IoT) – DATA EXCHANGE PLATFORM FOR IOT SERVICES – Part 1: General requirements and architecture

1 Scope

This document specifies requirements for an Internet of Things (IoT) data exchange platform for various services in the technology areas of:

- the middleware components of communication networks allowing the co-existence of IoT services with legacy services;
- the end-points performance across the communication networks among the IoT and legacy services;
- the IoT specific functions and functionalities allowing the efficient deployment of IoT services;
- the IoT service communication networks' framework and infrastructure; and
- the IoT service implementation guideline for the IoT data exchange platform.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO/IEC 30141:2018, *Internet of Things (IoT) – Reference architecture*

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- ISO Online browsing platform: available at <http://www.iso.org/obp>
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3.1

IoT data exchange platform

IoT DEP

set of functional blocks that provide an abstraction of IoT data blocks and exchange of IoT data with other entities

Note 1 to entry: For example, in a huge number of sensors across various networks, IoT DEP reduces traffic volumes and exchanges IoT data with other entities. Functional blocks of IoT DEP are implemented at endpoints and nodal points in IoT networks. These functional blocks cooperate as a platform.

3.2

nodal point

point that investigates routing information specified in communication protocols and relays data blocks according to such information